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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/684,241	10/13/2003	Matthew M. Kuklis	7175-72839	3020
23643	7590	03/24/2005	EXAMINER	
BARNES & THORNBURG 11 SOUTH MERIDIAN INDIANAPOLIS, IN 46204			ELLINGTON, ALANDRA	
			ART UNIT	PAPER NUMBER
			2855	

DATE MAILED: 03/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/684,241

Applicant(s)

KUKLIS ET AL.

Examiner

Alandra Ellington

Art Unit

2855

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 1/29/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 2 and 4-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Jacobsen et al (5,174,159) (hereinafter Jacobsen).

a. With respect to Claim 1, Jacobsen discloses an apparatus for sensing shear, the apparatus comprising a: first piece 4, a second piece 40 movable relative to the first piece 4 along a shear plane, and a sensor 8,34,38 interposed between the first piece 4 and the second piece 40, a first portion 8 of the sensor being stationary relative to the first piece 4, a second portion 38 of the sensor being stationary relative to the second piece 40, and a third portion 34 of the sensor being deformed as the second piece 40 moves relative to the first piece 4 along the shear plane, the sensor 8,38 having an output signal indicative of the amount of deformation of the third portion 34 (col. 3 lines 37-64 {Fig. 1}).

b. With respect to Claim 2, Jacobsen discloses the apparatus of claim 1, wherein the first portion of the sensor is in contact with the first piece and the second portion of the sensor is in contact with the second piece ({Fig. 1}).

c. With respect to Claim 4, Jacobsen discloses the apparatus of claim 1, wherein the first piece includes a stop 28 the first portion comprises a first

surface that engages the stop 28, and the second portion comprises a second surface that is coupled to the second body ({Fig. 1}).

d. With respect to Claim 5, Jacobsen discloses the apparatus of claim 4, wherein the second surface is perpendicular to the first surface ({Fig. 1}).

e. With respect to Claim 6, Jacobsen discloses the apparatus of claim 4, wherein the third portion 48 of the sensor has a third surface and the sensor comprises a detector 8 that is coupled to the third surface ({Fig. 1}).

f. With respect to Claim 7, Jacobsen discloses the apparatus of claim 1, wherein the first, second, and third portions of the sensor are formed from a mass of resilient material (col. 3 lines 37-56, col. 4 lines 5-39).

g. With respect to Claim 8, Jacobsen discloses the apparatus of claim 7, wherein the resilient material comprises an elastomeric material (col. 3 lines 65-67, col. 4 lines 5-9).

h. With respect to Claim 9, Jacobsen discloses the apparatus of claim 7, wherein the resilient material comprises a metal material (col. 4 lines 10-16, 35-39).

i. With respect to Claim 10, Jacobsen discloses the apparatus of claim 1, wherein the sensor comprises a load beam 36, the second portion comprises a second end region of the load beam 36, and the third portion comprises an intermediate region of the load beam 36 that interconnects the first and second end regions ({Fig. 2}).

j. With respect to Claim 11, Jacobsen discloses the apparatus of claim 10, wherein the load beam 36 has a first slot between the first end region and the

intermediate region and the load beam 36 has a second slot between the second end region and the intermediate region ({Fig. 2}).

k. With respect to Claim 12, Jacobsen discloses the apparatus of claim 12, wherein the first piece comprises a first plate 4, the second piece comprises a second plate 40, and the sensor 8,38 comprises a flat element 12,24 that is situated between the first and second plates ({Fig. 1}).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 3 and 13-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jacobsen (5,174,159) in view of O'Brien et al (5,230,252) (hereinafter O'Brien).

a. With respect to Claim 3, Jacobsen discloses the claimed invention except for a strain gage coupled to the third portion. O'Brien teaches strain gauges 30,32,34,36 coupled to a deformable portion 18,20 of a sensor 10,12 (col. 2 lines 55-68). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Jacobsen with the teachings of O'Brien to include a strain gauge coupled to a deformable portion of a sensor for the purpose of producing a constant strain in the center of the load beam which is proportional to the applied load (see O'Brien, col. 2 lines 55-68).

b. With respect to Claim 13, Jacobsen discloses the apparatus comprising a first piece comprising a first plate and a first stop 28 coupled to the first plate 4, a second piece comprising a second plate 40 and a second stop 52 coupled to the second plate 40, the second plate 40 being arranged in parallel relation with the first plate 4, the second piece being movable relative to the first piece along a shear plane that is parallel with the first and second plates 4,40, and a sensor 8,38 comprising a body and a detect coupled to the body, a portion of the body being situated between the first and second stops 28,52, the portion of the body being deformable as a result of the second piece moving relative to the first piece along the shear plane (col. 3 lines 37-64 {Fig. 1}). However, Jacobsen does not specifically teach a strain gage. O'Brien teaches strain gauges 30,32,34,36 coupled to a deformable portion 18,20 of a sensor 10,12 (col. 2 lines 55-68). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Jacobsen with the teachings of O'Brien to include a strain gauge coupled to a deformable portion of a sensor for the purpose of producing a constant strain in the center of the load beam which is proportional to the applied load (see O'Brien, col. 2 lines 55-68).

c. With respect to Claim 14, Jacobsen discloses the body has a first hole and the first stop 28 includes a first post that is received in the first hole (Fig. 1).

d. With respect to Claim 15, Jacobsen discloses the body has a second hole and the second stop 52 includes a second post that is received in the second hole ({Fig. 1}).

- e. With respect to Claim 16, Jacobsen disclose the first post is received in the first hole with a press fit ({Fig. 1}).
- f. With respect to Claim 17, Jacobsen discloses a spacer 24,28 coupled to the first post, the spacer 24,28 being situated between the body and the first plate 4, and the body being held out of contact with the first plate 4 by the spacer 24,28 ({Fig. 1}).
- g. With respect to Claim 18, Jacobsen discloses the second piece comprising a rim 44 extending from the second plate 40, the rim 44 has a surface that engages the first plate 4, and a portion of the rim 44 provides the second stop 52 ({Fig. 1}).
- h. With respect to Claim 19, Jacobsen discloses the rim 44 surrounding the body ({Fig. 1}).
- i. With respect to Claim 20, Jacobsen discloses the body has a first slot on one side and a second slot on an opposite side, the slots defining a load-sensing intermediate region therebetween ({Fig. 2}).
- j. With respect to Claim 21, Jacobsen discloses the body comprising a third plate 12,60 that is substantially parallel with the first and second plates 4,40 ({Fig. 1}).
- k. With respect to Claim 22, Jacobsen discloses the third plate has a first end region that engages the first stop 28, the third plate 60 has a second end region that en engages the second stop 52, and the third plate 60 has an

intermediate region that interconnects the first and second end regions ({Figs. 1,2}).

l. With respect to Claim 23, Jacobsen discloses the third plate 12 has a first slot between the first end region and the intermediate region and the load beam 36 has a second slot between the second end region and the intermediate region ({Figs. 1,2}).

m. With respect to Claim 24, Jacobsen discloses an apparatus for sensing shear with a first plate 4, a second plate 40, a middle plate 28 sandwiched between the first and second plates 4,40, and the middle plate 28 being deformable. However, Jacobsen does not teach a strain gage coupled to the middle plate. O'Brien teaches strain gauges 30,32,34,36 coupled to a deformable portion 18,20 of a sensor 10,12 (col. 2 lines 55-68). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Jacobsen with the teachings of O'Brien to include a strain gauge coupled to a deformable portion of a sensor for the purpose of producing a constant strain in the center of the load beam which is proportional to the applied load (see O'Brien, col. 2 lines 55-68).

n. With respect to Claim 25, Jacobsen discloses a first stop 28 configured to mount the first plate 4 to the middle plate ({Fig. 1}).

o. With respect to Claim 26, Jacobsen disclose a second stop 52 configured to mount the second plate to the middle plate ({Fig. 1}).

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

(4,811,254) (4,944,181) (4,098,000) (3,995,696)

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alandra Ellington whose telephone number is (571) 272-2178. The examiner can normally be reached on Monday - Friday, 7:30am - 4:00pm.

7. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Lefkowitz can be reached on (571) 272-2180. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

8. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Alandra Ellington
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**HARSHAD PATEL
PRIMARY EXAMINER**